SEQUENCE LISTING

<110> Wisconsin Alumni Research Foundation et al.
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Papa, Charles M.

<120> Nucleic Acid and Amino Acid Sequences Encoding Class II DNA Methyltransferases

<130> WIS4987P0051PCT

<140> PCT/US00/06456
<141> 2000-03-10

<160> 90

<170> PatentIn Ver. 2.1

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<212> PRT
<213> Zea mays

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Pro Gly Lys Lys Lys Gly Asp Ala Glu Met Lys Glu Pro Val Glu Asp
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Ala Gly Ser Pro Gly Lys Lys Arg Val Gly Arg Arg Asn Ala Ala Ala
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Ala Ala Gly Asp His Glu Pro Glu Phe Ile Gly Ser Pro Val Ala Ala
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Asp Glu Ala Arg Ser Asn Trp Pro Lys Arg Tyr Gly Arg Ser Thr Ala
145                 150                 155                 160

Ala Lys Lys Pro Asp Glu Glu Glu Glu Leu Lys Ala Arg Cys His Tyr
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Arg Ser Ala Lys Val Asp Asn Val Val Tyr Cys Leu Gly Asp Asp Val
            180                 185                 190

Tyr Val Lys Ala Gly Glu Asn Glu Ala Asp Tyr Ile Gly Arg Ile Thr
        195                 200                 205

Glu Phe Phe Glu Gly Thr Asp Gln Cys His Tyr Phe Thr Cys Arg Trp
    210                 215                 220

Phe Phe Arg Ala Glu Asp Thr Val Ile Asn Ser Leu Val Ser Ile Ser
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Val Asp Gly His Lys His Asp Pro Arg Arg Val Phe Leu Ser Glu Glu
                245                 250                 255

Lys Asn Asp Asn Val Leu Asp Cys Ile Ile Ser Lys Val Lys Ile Val
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His Val Asp Pro Asn Met Asp Pro Lys Ala Lys Ala Gln Leu Ile Glu
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Ser Cys Asp Leu Tyr Tyr Asp Met Ser Tyr Ser Val Ala Tyr Ser Thr
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305 310 315 320

Ser Gly Ile Ser Ser Asp Asp Val Asp Leu Glu Thr Ser Ser Ser Met
325 330 335

Pro Thr Arg Thr Ala Thr Leu Leu Asp Leu Tyr Ser Gly Cys Gly Gly
340 345 350

Met Ser Thr Gly Leu Cys Leu Gly Ala Ala Leu Ser Gly Leu Lys Leu
355 360 365

Glu Thr Arg Trp Ala Val Asp Phe Asn Ser Phe Ala Cys Gln Ser Leu
370 375 380

Lys Tyr Asn His Pro Gln Thr Glu Val Arg Asn Glu Lys Ala Asp Glu
385 390 395 400

Phe Leu Ala Leu Leu Lys Glu Trp Ala Val Leu Cys Lys Lys Tyr Val
405 410 415

Gln Asp Val Asp Ser Asn Leu Ala Ser Ser Glu Asp Gln Ala Asp Glu
420 425 430

Asp Ser Pro Leu Asp Lys Asp Glu Phe Val Val Glu Lys Leu Val Gly
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Ile Cys Tyr Gly Gly Ser Asp Arg Glu Asn Gly Ile Tyr Phe Lys Val
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Gln Trp Glu Gly Tyr Gly Pro Glu Glu Asp Thr Trp Glu Pro Ile Asp
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Asn Leu Ser Asp Cys Pro Gln Lys Ile Arg Glu Phe Val Gln Glu Gly
485 490 495

His Lys Arg Lys Ile Leu Pro Leu Pro Gly Asp Val Asp Val Ile Cys
500 505 510

Gly Gly Pro Pro Cys Gln Gly Ile Ser Gly Phe Asn Arg Tyr Arg Asn
515 520 525

Arg Asp Glu Pro Leu Lys Asp Glu Lys Asn Lys Gln Met Val Thr Phe
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Met Asp Ile Val Ala Tyr Leu Lys Pro Lys Tyr Val Leu Met Glu Asn

545 550 555 560

Val Val Asp Ile Leu Lys Phe Ala Asp Gly Tyr Leu Gly Lys Tyr Ala
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Leu Ser Cys Leu Val Ala Met Lys Tyr Gln Ala Arg Leu Gly Met Met
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Val Ala Gly Cys Tyr Gly Leu Pro Gln Phe Arg Met Arg Val Phe Leu
595 600 605

Trp Gly Ala Leu Ser Ser Met Val Leu Pro Lys Tyr Pro Leu Pro Thr
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Tyr Asp Val Val Val Arg Gly Gly Ala Pro Asn Ala Phe Ser Gln Cys
625 630 635 640

Met Val Ala Tyr Asp Glu Thr Gln Lys Pro Ser Leu Lys Lys Ala Leu
645 650 655

Leu Leu Gly Asp Ala Ile Ser Asp Leu Pro Lys Val Gln Asn His Gln
660 665 670

Pro Asn Asp Val Met Glu Tyr Gly Gly Ser Pro Lys Thr Glu Phe Gln
675 680 685

Arg Tyr Ile Arg Leu Ser Arg Lys Asp Met Leu Asp Trp Ser Phe Gly
690 695 700

Glu Gly Ala Gly Pro Asp Glu Gly Lys Leu Leu Asp His Gln Pro Leu
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Arg Leu Asn Asn Asp Asp Tyr Glu Arg Val Gln Gln Ile Pro Val Lys
725 730 735

Lys Gly Ala Asn Phe Arg Asp Leu Lys Gly Val Arg Val Gly Ala Asn
740 745 750

Asn Ile Val Glu Trp Asp Pro Glu Ile Glu Arg Val Lys Leu Ser Ser
755 760 765

Gly Lys Pro Leu Val Pro Asp Tyr Ala Met Ser Phe Ile Lys Gly Lys
770 775 780

Ser Leu Lys Pro Phe Gly Arg Leu Trp Trp Asp Glu Thr Val Pro Thr
785 790 795 800

Val Val Thr Arg Ala Glu Pro His Asn Gln Val Ile Ile His Pro Thr

805 810 815

Gln Ala Arg Val Leu Thr Ile Arg Glu Asn Ala Arg Leu Gln Gly Phe
820 825 830

Pro Asp Tyr Tyr Arg Leu Phe Gly Pro Ile Lys Glu Lys Tyr Ile Gln
835 840 845

Val Gly Asn Ala Val Ala Val Pro Val Ala Arg Ala Leu Gly Tyr Cys
850 855 860

Leu Gly Gln Ala Tyr Leu Gly Glu Ser Glu Gly Ser Asp Pro Leu Tyr
865 870 875 880

Gln Leu Pro Pro Ser Phe Thr Ser Val Gly Gly Arg Thr Ala Gly Gln
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<212> PRT
<213> Zea mays

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35 40 45

Ala Ser Ser Ala Lys Arg Ser Arg Lys Ala Ala Ser Ser Gly Lys Lys
50 55 60

Pro Lys Ser Pro Pro Lys Gln Ala Lys Pro Gly Arg Lys Lys Lys Gly
65 70 75 80

Asp Ala Glu Met Lys Glu Pro Val Glu Asp Asp Val Cys Ala Glu Glu
85 90 95

Pro Asp Glu Glu Glu Leu Ala Met Gly Glu Glu Glu Ala Glu Glu Gln
100 105 110

Ala Met Gln Glu Glu Val Val Ala Val Ala Ala Gly Ser Pro Gly Lys
115 120 125

Lys Arg Val Gly Arg Arg Asn Ala Ala Ala Ala Ala Gly Asp His Glu
130 135 140

Pro Glu Phe Ile Gly Ser Pro Val Ala Ala Asp Glu Ala Arg Ser Asn
145 150 155 160

Trp Pro Lys Arg Tyr Gly Arg Ser Thr Ala Ala Lys Lys Pro Asp Glu
165 170 175

Glu Glu Glu Leu Lys Ala Arg Cys His Tyr Arg Ser Ala Lys Val Asp
180 185 190

Asn Val Val Tyr Cys Leu Gly Asp Asp Val Tyr Val Lys Ala Gly Glu
195 200 205

Asn Glu Ala Asp Tyr Ile Gly Arg Ile Thr Glu Phe Phe Glu Gly Thr
210 215 220

Asp Gln Cys His Tyr Phe Thr Cys Arg Trp Phe Phe Arg Ala Glu Asp
225 230 235 240

Thr Val Ile Asn Ser Leu Val Ser Ile Ser Val Asp Gly His Lys His
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Asp Pro Arg Arg Val Phe Leu Ser Glu Glu Lys Asn Asp Asn Val Leu
260 265 270

Asp Cys Ile Ile Ser Lys Val Lys Ile Val His Val Asp Pro Asn Met
275 280 285

Asp Pro Lys Ala Lys Ala Gln Leu Ile Glu Ser Cys Asp Leu Tyr Tyr
290 295 300

Asp Met Ser Tyr Ser Val Ala Tyr Ser Thr Phe Ala Asn Ile Ser Ser
305 310 315 320

Glu Asn Gly Gln Ser Gly Ser Asp Thr Ala Ser Gly Ile Ser Ser Asp
325 330 335

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Leu Leu Asp Leu Tyr Ser Gly Cys Gly Gly Met Ser Thr Gly Leu Cys
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Leu Gly Ala Ala Leu Ser Gly Leu Lys Leu Glu Thr Arg Trp Ala Val
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Asp Phe Asn Ser Phe Ala Cys Gln Ser Leu Lys Tyr Asn His Pro Gln
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Thr Glu Val Arg Asn Glu Lys Ala Asp Glu Phe Leu Ala Leu Leu Lys
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Asp Arg Glu Asn Gly Ile Tyr Phe Lys Val Gln Trp Glu Gly Tyr Gly
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Pro Glu Glu Asp Thr Trp Glu Pro Ile Asp Asn Leu Ser Asp Cys Pro
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Gln Lys Ile Arg Glu Phe Val Gln Glu Gly His Lys Arg Lys Ile Leu
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Pro Leu Pro Gly Asp Val Asp Val Ile Cys Gly Gly Pro Pro Cys Gln
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Gly Ile Ser Gly Phe Asn Arg Tyr Arg Asn Arg Asp Glu Pro Leu Lys
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Asp Glu Lys Asn Lys Gln Met Val Thr Phe Met Asp Ile Val Ala Tyr
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Leu Lys Pro Lys Tyr Val Leu Met Glu Asn Val Val Asp Ile Leu Lys
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Phe Ala Asp Gly Tyr Leu Gly Lys Tyr Ala Leu Ser Cys Leu Val Ala
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Met Lys Tyr Gln Ala Arg Leu Gly Met Met Val Ala Gly Cys Tyr Gly
595 600 605

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Leu Pro Gln Phe Arg Met Arg Val Phe Leu Trp Gly Ala Leu Ser Ser
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Met Val Leu Pro Lys Tyr Pro Leu Pro Thr Tyr Asp Val Val Val Arg
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Gly Gly Ala Pro Asn Ala Phe Ser Gln Cys Met Val Ala Tyr Asp Glu
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Thr Gln Lys Pro Ser Leu Lys Lys Ala Leu Leu Leu Gly Asp Ala Ile
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Ser Asp Leu Pro Lys Val Gln Asn His Gln Pro Asn Asp Val Met Glu
        675                 680                 685

Tyr Gly Gly Ser Pro Lys Thr Glu Phe Gln Arg Tyr Ile Arg Leu Ser
    690                 695                 700

Arg Lys Asp Met Leu Asp Trp Ser Phe Gly Glu Gly Ala Gly Pro Asp
705                 710                 715                 720

Glu Gly Lys Leu Leu Asp His Gln Pro Leu Arg Leu Asn Asn Asp Asp
                725                 730                 735

Tyr Glu Arg Val Gln Gln Ile Pro Val Lys Lys Gly Ala Asn Phe Arg
            740                 745                 750

Asp Leu Lys Gly Val Arg Val Gly Ala Asn Asn Ile Val Glu Trp Asp
        755                 760                 765

Pro Glu Ile Glu Arg Val Lys Leu Ser Ser Gly Lys Pro Leu Val Pro
    770                 775                 780

Asp Tyr Ala Met Ser Phe Ile Lys Gly Lys Ser Leu Lys Pro Phe Gly
785                 790                 795                 800

Arg Leu Trp Trp Asp Glu Thr Val Pro Thr Val Val Thr Arg Ala Glu
                805                 810                 815

Pro His Asn Gln Val Ile Ile His Pro Thr Gln Ala Arg Val Leu Thr
            820                 825                 830

Ile Arg Glu Asn Ala Arg Leu Gln Gly Phe Pro Asp Tyr Tyr Arg Leu
        835                 840                 845

Phe Gly Pro Ile Lys Glu Lys Tyr Ile Gln Val Gly Asn Ala Val Ala
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Val Pro Val Ala Arg Ala Leu Gly Tyr Cys Leu Gly Gln Ala Tyr Leu
865 870 875 880

Gly Glu Ser Glu Gly Ser Asp Pro Leu Tyr Gln Leu Pro Pro Ser Phe
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Thr Ser Val Gly Gly Arg Thr Ala Gly Gln Ala Arg Ala Ser Pro Val
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Gly Thr Pro Ala Gly Glu Val Val Glu Gln
915 920

<210> 5
<211> 9
<212> PRT
<213> Zea mays

<400> 5
Lys Asp Asp Arg Ser Glu Leu Ser Trp
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<210> 6
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: This sequence was artificially synthesized based on the sequence of Zea mays.

<400> 6
tggttgctat ggtctgccac agttcag 27

<210> 7
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: This sequence was artificially synthesized based on the sequence of Zea mays.

<400> 7

ccagctcagc tcagatctgt catccttt 28

<210> 8
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: This sequence was artificially synthesized based on the sequence of Zea mays.

<400> 8
cgaaagctaa tctacacaaa cagc 24

<210> 9
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: This sequence was artificially synthesized based on the sequence of Zea mays.

<400> 9
gatcctctga gcttgctaaa tttg 24

<210> 10
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: This sequence was artificially synthesized based on the sequence of Zea mays.

<400> 10
ctcatcttgg agtggctcat cac 23

<210> 11
<211> 22
<212> DNA

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: This sequence
was artificially synthesized based on the sequence
of Zea mays.

<400> 11
gagcacatga gggagagtgt tg 22

<210> 12
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: This sequence
was artificially synthesized based on the sequence
of Zea mays.

<400> 12
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<210> 13
<211> 24
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<220>
<223> Description of Artificial Sequence: This sequence
was artificially synthesized based on the sequence
of Zea mays.

<400> 13
cctctgccca cctatgatgt tgta 24

<210> 14
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: This sequence
was artificially synthesized based on the sequence
of Zea mays.

<400> 14
taaagggcgt gagggttgga 20

<210> 15
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: This sequence was artificially synthesized based on the sequence of Zea mays.

<400> 15
tcacatttgt catggcaggt tatc 24

<210> 16
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: This sequence was artificially synthesized based on the sequence of Zea mays.

<400> 16
ctgaggaaaa gaacgacaat gtgc 24

<210> 17
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: This sequence was artificially synthesized based on the sequence of Zea mays.

<400> 17
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<210> 18

<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: This sequence
was artificially synthesized based on the sequence
of Zea mays.

<400> 18
gaagaagagg gtggggagaa ggaacg 26

<210> 19
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: This sequence
was artificially synthesized based on the sequence
of Zea mays.

<400> 19
ttctttgcgg cagtgctgcg 20

<210> 20
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: This sequence
was artificially synthesized based on the sequence
of Zea mays.

<400> 20
gtattgaatt gattctcaac tagtgcac 28

<210> 21
<211> 17
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: This sequence

was artificially synthesized based on the sequence of Zea mays.

<400> 21
caggctcaac ggcgatg 17

<210> 22
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: This sequence was artificially synthesized based on the sequence of Zea mays.

<400> 22
atgcttcat cacatagacc caagtc 26

<210> 23
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: This sequence was artificially synthesized based on the sequence of Zea mays.

<400> 23
gatagaccta atgccaaatg agattaag 28

<210> 24
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: This sequence was artificially synthesized based on the sequence of Zea mays.

<400> 24
gcgatcttca gtctccacca tc 22

<210> 25
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: This sequence was artificially synthesized based on the sequence of Zea mays.

<400> 25
gaagacgtgc ctccatgttt catc 24

<210> 26
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: This sequence was artificially synthesized based on the sequence of Zea mays.

<400> 26
gttggttctt ccgagcagag g 21

<210> 27
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: This sequence was artificially synthesized based on the sequence of Zea mays.

<400> 27
gactgccaca tatcttatta atcgc 25

<210> 28
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: This sequence
was artificially synthesized based on the sequence
of Zea mays.

<400> 28
gcatgtgtca gcaattgctt acattc 26

<210> 29
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: This sequence
was artificially synthesized based on the sequence
of Zea mays.

<400> 29
cctctgctcg gaagaaccaa c 21

<210> 30
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: This sequence
was artificially synthesized based on the sequence
of Zea mays.

<400> 30
ctgttcggag attcatgcat gatg 24

<210> 31
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: This sequence
was artificially synthesized based on the sequence
of Zea mays.

<400> 31

ggagaacaga atggttgatt caatgg 26

<210> 32
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: This sequence was artificially synthesized based on the sequence of Zea mays.

<400> 32
gcacttcact ctcctggcaa acc 23

<210> 33
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: This sequence was artificially synthesized based on the sequence of Zea mays.

<400> 33
cggtacgctg ctgctgctct c 21

<210> 34
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: This sequence was artificially synthesized based on the sequence of Zea mays.

<400> 34
ccatagcatc tcacatatcg caagg 25

<210> 35
<211> 28
<212> DNA

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: This sequence was artificially synthesized based on the sequence of Zea mays.

<400> 35
ggaaagaagg cagttagttg taaatggg 28

<210> 36
<211> 32
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: This sequence was artificially synthesized based on the sequence of Zea mays.

<400> 36
ggagaagcca acgccawcgc ctcyatttcg tc 32

<210> 37
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: This sequence was artificially synthesized based on the sequence of Zea mays.

<400> 37
ctacaacatc atagttgggc agagg 25

<210> 38
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: This sequence was artificially synthesized based on the sequence of Zea mays.

<400> 38
actcactata gggctcgagc ggc 23

<210> 39
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: This sequence was artificially synthesized based on the sequence of Zea mays.

<400> 39
taatacgact cactataggg 20

<210> 40
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: This sequence was artificially synthesized based on the sequence of Zea mays.

<400> 40
gatttaggtg acactatag 19

<210> 41
<211> 17
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: This sequence was artificially synthesized based on the sequence of Zea mays.

<400> 41
gttttcccag tcacgac 17

<210> 42

<211> 17
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: This sequence was artificially synthesized based on the sequence of Zea mays.

<400> 42
caggaaacag ctatgac 17

<210> 43
<211> 912
<212> PRT
<213> Zea mays

<400> 43

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Met Ala Pro Ser Ser Pro Ser Pro Ala Ala Pro Thr Arg Val Ser Gly
 1               5                  10                  15

Arg Lys Arg Ala Ala Lys Ala Glu Glu Ile His Gln Asn Lys Glu Glu
            20                  25                  30

Glu Glu Glu Val Ala Ala Ala Ser Ser Ala Lys Arg Ser Arg Lys Ala
        35                  40                  45

Ala Ser Ser Gly Lys Lys Pro Lys Ser Pro Pro Lys Gln Ala Lys Pro
    50                  55                  60

Gly Arg Lys Lys Lys Gly Asp Ala Glu Met Lys Glu Pro Val Glu Asp
65                  70                  75                  80

Asp Val Cys Ala Glu Glu Pro Asp Glu Glu Glu Leu Ala Met Gly Glu
                85                  90                  95

Glu Glu Ala Glu Glu Gln Ala Met Gln Glu Glu Val Val Ala Val Ala
            100                 105                 110

Ala Gly Ser Pro Gly Lys Lys Arg Val Gly Arg Arg Asn Ala Ala Ala
        115                 120                 125

Ala Ala Gly Asp His Glu Pro Glu Phe Ile Gly Ser Pro Val Ala Ala
    130                 135                 140

Asp Glu Ala Arg Ser Asn Trp Pro Lys Arg Tyr Gly Arg Ser Thr Ala
145                 150                 155                 160
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Ala Lys Lys Pro Asp Glu Glu Glu Glu Leu Lys Ala Arg Cys His Tyr
165 170 175

Arg Ser Ala Lys Val Asp Asn Val Val Tyr Cys Leu Gly Asp Asp Val
180 185 190

Tyr Tyr Lys Ala Gly Glu Asn Glu Ala Asp Tyr Ile Gly Arg Ile Thr
195 200 205

Glu Phe Phe Glu Gly Thr Asp Gln Cys His Tyr Phe Thr Cys Arg Trp
210 215 220

Phe Phe Arg Ala Glu Asp Thr Val Ile Asn Ser Leu Val Ser Ile Ser
225 230 235 240

Val Asp Gly His Lys His Asp Pro Arg Arg Val Phe Leu Ser Glu Glu
245 250 255

Lys Asn Asp Asn Val Leu Asp Cys Ile Ile Ser Lys Val Lys Ile Val
260 265 270

His Val Asp Pro Asn Met Asp Pro Lys Ala Lys Ala Gln Leu Ile Glu
275 280 285

Ser Cys Asp Leu Tyr Tyr Asp Met Ser Tyr Ser Val Ala Tyr Ser Thr
290 295 300

Phe Ala Asn Ile Ser Ser Glu Asn Gly Gln Ser Gly Ser Asp Thr Ala
305 310 315 320

Ser Gly Ile Ser Ser Asp Asp Val Asp Leu Glu Thr Ser Ser Ser Met
325 330 335

Pro Thr Arg Thr Ala Thr Leu Leu Asp Leu Tyr Ser Gly Cys Gly Gly
340 345 350

Met Ser Thr Gly Leu Cys Leu Gly Ala Ala Leu Ser Gly Leu Lys Leu
355 360 365

Glu Thr Arg Trp Ala Val Asp Phe Asn Ser Phe Ala Cys Gln Ser Leu
370 375 380

Lys Tyr Asn His Pro Gln Thr Glu Val Arg Asn Glu Lys Ala Asp Glu
385 390 395 400

Phe Leu Ala Leu Leu Lys Glu Trp Ala Val Leu Cys Lys Lys Tyr Val
405 410 415

Gln Asp Val Asp Ser Asn Leu Ala Ser Ser Glu Asp Gln Ala Asp Glu
420 425 430

Asp Ser Pro Leu Asp Lys Asp Glu Phe Val Val Glu Lys Leu Val Gly
435 440 445

Ile Cys Tyr Gly Gly Ser Asp Arg Glu Asn Gly Ile Tyr Phe Lys Val
450 455 460

Gln Trp Glu Gly Tyr Gly Pro Glu Glu Asp Thr Trp Glu Pro Ile Asp
465 470 475 480

Asn Leu Ser Asp Cys Pro Gln Lys Ile Arg Glu Phe Val Gln Glu Gly
485 490 495

His Lys Arg Lys Ile Leu Pro Leu Pro Gly Asp Val Asp Val Ile Cys
500 505 510

Gly Gly Pro Pro Cys Gln Gly Ile Ser Gly Phe Asn Arg Tyr Arg Asn
515 520 525

Arg Asp Glu Pro Leu Lys Asp Glu Lys Asn Lys Gln Met Val Thr Phe
530 535 540

Met Asp Ile Val Ala Tyr Leu Lys Pro Lys Tyr Val Leu Met Glu Asn
545 550 555 560

Val Val Asp Ile Leu Lys Phe Ala Asp Gly Tyr Leu Gly Lys Tyr Ala
565 570 575

Leu Ser Cys Leu Val Ala Met Lys Tyr Gln Ala Arg Leu Gly Met Met
580 585 590

Val Ala Gly Cys Tyr Gly Leu Pro Gln Phe Arg Met Arg Val Phe Leu
595 600 605

Trp Gly Ala Leu Ser Ser Met Val Leu Pro Lys Tyr Pro Leu Pro Thr
610 615 620

Tyr Asp Val Val Val Arg Gly Gly Ala Pro Asn Ala Phe Ser Gln Cys
625 630 635 640

Met Val Ala Tyr Asp Glu Thr Gln Lys Pro Ser Leu Lys Lys Ala Leu
645 650 655

Leu Leu Gly Asp Ala Ile Ser Asp Leu Pro Lys Val Gln Asn His Gln
660 665 670

Pro Asn Asp Val Met Glu Tyr Gly Gly Ser Pro Lys Thr Glu Phe Gln
675 680 685

Arg Tyr Ile Arg Leu Ser Arg Lys Asp Met Leu Asp Trp Ser Phe Gly
690 695 700

Glu Gly Ala Gly Pro Asp Glu Gly Lys Leu Leu Asp His Gln Pro Leu
705 710 715 720

Arg Leu Asn Asn Asp Asp Tyr Glu Arg Val Gln Gln Ile Pro Val Lys
725 730 735

Lys Gly Ala Asn Phe Arg Asp Leu Lys Gly Val Arg Val Gly Ala Asn
740 745 750

Asn Ile Val Glu Trp Asp Pro Glu Ile Glu Arg Val Lys Leu Ser Ser
755 760 765

Gly Lys Pro Leu Val Pro Asp Tyr Ala Met Ser Phe Ile Lys Gly Lys
770 775 780

Ser Leu Lys Pro Phe Gly Arg Leu Trp Trp Asp Glu Thr Val Pro Thr
785 790 795 800

Val Val Thr Arg Ala Glu Pro His Asn Gln Val Ile Ile His Pro Thr
805 810 815

Gln Ala Arg Val Leu Thr Leu Arg Glu Asn Ala Arg Leu Gln Gly Phe
820 825 830

Pro Asp Tyr Tyr Arg Leu Phe Gly Pro Ile Lys Glu Lys Tyr Ile Gln
835 840 845

Val Gly Asn Ala Val Ala Val Pro Val Ala Arg Ala Leu Gly Tyr Cys
850 855 860

Leu Gly Gln Ala Tyr Leu Gly Glu Ser Glu Gly Ser Asp Pro Leu Tyr
865 870 875 880

Gln Leu Pro Pro Ser Phe Thr Ser Val Gly Gly Arg Thr Ala Gly Gln
885 890 895

Ala Arg Ala Ser Pro Val Gly Thr Pro Ala Gly Glu Val Val Glu Gln
900 905 910

<210> 44
<211> 791
<212> PRT
<213> Arabidopsis thaliana

<400> 44
Met Ala Ala Arg Asn Lys Gln Lys Lys Arg Ala Glu Pro Glu Ser Asp
1 5 10 15

Leu Cys Phe Ala Gly Lys Pro Met Ser Val Val Glu Ser Thr Ile Arg
20 25 30

Trp Pro His Arg Tyr Gln Ser Lys Lys Thr Lys Leu Gln Ala Pro Thr
35 40 45

Lys Lys Pro Ala Asn Lys Gly Gly Lys Lys Glu Asp Glu Glu Ile Ile
50 55 60

Lys Gln Ala Lys Cys His Phe Asp Lys Ala Leu Val Asp Gly Val Leu
65 70 75 80

Ile Asn Leu Asn Asp Asp Val Tyr Val Thr Gly Leu Pro Gly Lys Leu
85 90 95

Lys Phe Ile Ala Lys Val Ile Glu Leu Phe Glu Ala Asp Asp Gly Val
100 105 110

Pro Tyr Cys Arg Phe Arg Trp Tyr Tyr Arg Pro Glu Asp Thr Leu Ile
115 120 125

Glu Arg Phe Ser His Leu Val Gln Pro Lys Arg Val Phe Leu Ser Asn
130 135 140

Asp Glu Asn Asp Asn Pro Leu Thr Cys Ile Trp Ser Lys Val Asn Ile
145 150 155 160

Ala Lys Val Pro Leu Pro Lys Ile Thr Ser Arg Ile Glu Gln Arg Val
165 170 175

Ile Pro Pro Cys Asp Tyr Tyr Tyr Asp Met Lys Tyr Glu Val Pro Tyr
180 185 190

Leu Asn Phe Thr Ser Ala Asp Asp Gly Ser Asp Ala Ser Ser Ser Leu
195 200 205

Ser Ser Asp Ser Ala Leu Asn Cys Phe Glu Asn Leu His Lys Asp Glu

210 215 220

Lys Phe Leu Leu Asp Leu Tyr Ser Gly Cys Gly Ala Met Ser Thr Gly
225 230 235 240

Phe Cys Met Gly Ala Ser Ile Ser Gly Val Lys Leu Ile Thr Lys Trp
245 250 255

Ser Val Asp Ile Asn Lys Phe Ala Cys Asp Ser Leu Lys Leu Asn His
260 265 270

Pro Glu Thr Glu Val Arg Asn Glu Ala Ala Glu Asp Phe Leu Ala Leu
275 280 285

Leu Lys Glu Trp Lys Arg Leu Cys Glu Lys Phe Ser Leu Val Ser Ser
290 295 300

Thr Glu Pro Val Glu Ser Ile Ser Glu Leu Glu Asp Glu Glu Val Glu
305 310 315 320

Glu Asn Asp Asp Ile Asp Glu Ala Ser Thr Gly Ala Glu Leu Glu Pro
325 330 335

Gly Glu Phe Glu Val Glu Lys Phe Leu Gly Ile Met Phe Gly Asp Pro
340 345 350

Gln Gly Thr Gly Glu Lys Thr Leu Gln Leu Met Val Arg Trp Lys Gly
355 360 365

Tyr Asn Ser Ser Tyr Asp Thr Trp Glu Pro Tyr Ser Gly Leu Gly Asn
370 375 380

Cys Lys Glu Lys Leu Lys Glu Tyr Val Ile Asp Gly Phe Lys Ser His
385 390 395 400

Leu Leu Pro Leu Pro Gly Thr Val Tyr Thr Val Cys Gly Gly Pro Pro
405 410 415

Cys Gln Gly Ile Ser Gly Tyr Asn Arg Tyr Arg Asn Asn Glu Ala Pro
420 425 430

Leu Glu Asp Gln Lys Asn Gln Gln Leu Leu Val Phe Leu Asp Ile Ile
435 440 445

Asp Phe Leu Lys Pro Asn Tyr Val Leu Met Glu Asn Val Val Asp Leu
450 455 460

Leu Arg Phe Ser Lys Gly Phe Leu Ala Arg His Ala Val Ala Ser Phe

```
465                 470                 475                 480

Val Ala Met Asn Tyr Gln Thr Arg Leu Gly Met Met Ala Ala Gly Ser
                485                 490                 495

Tyr Gly Leu Pro Gln Leu Arg Asn Arg Val Phe Leu Trp Ala Ala Gln
            500                 505                 510

Pro Ser Glu Lys Leu Pro Pro Tyr Pro Leu Pro Thr His Glu Val Ala
        515                 520                 525

Lys Lys Phe Asn Thr Pro Lys Glu Phe Lys Asp Leu Gln Val Gly Arg
    530                 535                 540

Ile Gln Met Glu Phe Leu Lys Leu Asp Asn Ala Leu Thr Leu Ala Asp
545                 550                 555                 560

Ala Ile Ser Asp Leu Pro Pro Val Thr Asn Tyr Val Ala Asn Asp Val
                565                 570                 575

Met Asp Tyr Asn Asp Ala Ala Pro Lys Thr Glu Phe Glu Asn Phe Ile
            580                 585                 590

Ser Leu Lys Arg Ser Glu Thr Leu Leu Pro Ala Cys Gly Gly Asp Pro
        595                 600                 605

Thr Arg Arg Leu Phe Asp His Gln Pro Leu Val Leu Gly Asp Asp Asp
    610                 615                 620

Leu Glu Arg Val Ser Tyr Ile Pro Lys Gln Lys Gly Ala Asn Tyr Arg
625                 630                 635                 640

Asp Met Pro Gly Val Leu Val His Asn Asn Lys Ala Glu Ile Asn Pro
                645                 650                 655

Arg Phe Arg Ala Lys Leu Lys Ser Gly Lys Asn Val Val Pro Ala Tyr
            660                 665                 670

Ala Ile Ser Phe Ile Lys Gly Lys Ser Lys Lys Pro Phe Gly Arg Leu
        675                 680                 685

Trp Gly Asp Glu Ile Val Asn Thr Val Val Thr Arg Ala Glu Pro His
    690                 695                 700

Asn Gln Cys Val Ile His Pro Met Gln Asn Arg Val Leu Ser Val Arg
705                 710                 715                 720

Glu Asn Ala Arg Leu Gln Gly Phe Pro Asp Cys Tyr Lys Leu Cys Gly
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725 730 735

Thr Ile Lys Glu Lys Tyr Ile Gln Val Gly Asn Ala Val Ala Val Pro
740 745 750

Val Gly Val Ala Leu Gly Tyr Ala Phe Gly Met Ala Ser Gln Gly Leu
755 760 765

Thr Asp Asp Glu Pro Val Ile Lys Leu Pro Phe Lys Tyr Pro Glu Cys
770 775 780

Met Gln Ala Lys Asp Gln Ile
785 790

<210> 45
<211> 444
<212> PRT
<213> Zea mays

<400> 45
Leu Asp Ile Phe Ala Gly Cys Gly Gly Leu Ser Glu Gly Leu Gln Gln
1 5 10 15

Ala Gly Val Ser Phe Thr Lys Trp Ala Ile Glu Tyr Glu Glu Pro Ala
20 25 30

Gly Glu Ala Phe Asn Lys Asn His Pro Glu Ala Val Val Phe Val Asp
35 40 45

Asn Cys Asn Val Ile Leu Lys Ala Ile Met Asp Lys Cys Gly Asp Thr
50 55 60

Asp Asp Cys Val Ser Thr Ser Glu Ala Ala Glu Gln Ala Ala Lys Leu
65 70 75 80

Pro Glu Val Asn Ile Asn Asn Leu Pro Val Pro Gly Glu Val Glu Phe
85 90 95

Ile Asn Gly Gly Pro Pro Cys Gln Gly Phe Ser Gly Met Asn Arg Phe
100 105 110

Asn Cys Gln Ser Pro Trp Ser Lys Val Gln Cys Glu Met Ile Leu Ala
115 120 125

Phe Leu Ser Phe Ala Glu Tyr Phe Arg Pro Arg Phe Phe Leu Leu Glu
130 135 140

Asn Val Arg Asn Phe Val Ser Phe Asn Lys Gly Gln Thr Phe Arg Leu
145 150 155 160

Ala Val Ala Ser Leu Leu Glu Met Gly Tyr Gln Val Arg Phe Gly Ile
165 170 175

Leu Glu Ala Gly Ala Phe Gly Val Ala Gln Ser Arg Lys Arg Ala Phe
180 185 190

Ile Trp Ala Ala Ala Pro Gly Glu Met Leu Pro Asp Trp Pro Glu Pro
195 200 205

Met His Val Phe Ala Ser Pro Glu Leu Lys Ile Thr Leu Pro Asp Gly
210 215 220

Gln Tyr Tyr Ala Ala Ala Arg Ser Thr Ala Gly Gly Ala Pro Phe Arg
225 230 235 240

Ala Ile Thr Val Arg Asp Thr Ile Gly Asp Leu Pro Lys Val Gly Asn
245 250 255

Gly Ala Ser Lys Leu Thr Leu Glu Tyr Gly Gly Glu Pro Val Ser Trp
260 265 270

Phe Gln Lys Lys Ile Arg Gly Ser Met Met Val Leu Asn Asp His Ile
275 280 285

Ser Lys Glu Met Asn Glu Leu Asn Leu Ile Arg Cys Gln His Ile Pro
290 295 300

Lys Arg Pro Gly Cys Asp Trp His Asp Leu Pro Asp Glu Lys Val Lys
305 310 315 320

Leu Ser Asn Gly Gln Met Ala Asp Leu Ile Pro Trp Cys Leu Pro Asn
325 330 335

Thr Ala Lys Arg His Asn Gln Trp Lys Gly Cys Leu Tyr Gly Arg Leu
340 345 350

Asp Trp Glu Gly Asn Phe Pro Thr Ser Val Thr Asp Pro Gln Pro Met
355 360 365

Gly Lys Val Gly Met Cys Phe His Pro Asp Gln Asp Arg Ile Ile Thr
370 375 380

Val Arg Glu Cys Ala Arg Ser Gln Gly Phe Pro Asp Ser Tyr Glu Phe
385 390 395 400

Ala Gly Asn Ile Gln Asn Lys His Arg Gln Ile Gly Asn Ala Val Pro
405 410 415

Pro Pro Leu Ala Tyr Ala Leu Gly Arg Lys Leu Lys Glu Ala Val Asp
420 425 430

Lys Arg Gln Glu Ala Ser Ala Gly Val Pro Ala Pro
435 440

<210> 46
<211> 440
<212> PRT
<213> Arabidopsis thaliana

<400> 46
Leu Asp Ile Phe Ala Gly Cys Gly Gly Leu Ser His Gly Leu Lys Lys
1 5 10 15

Ala Gly Val Ser Asp Ala Lys Trp Ala Ile Glu Tyr Glu Glu Pro Ala
20 25 30

Gly Gln Ala Phe Lys Gln Asn His Pro Glu Ser Thr Val Phe Val Asp
35 40 45

Asn Cys Asn Val Ile Leu Arg Ala Ile Met Glu Lys Gly Gly Asp Gln
50 55 60

Asp Asp Cys Val Ser Thr Thr Glu Ala Asn Glu Leu Ala Ala Lys Leu
65 70 75 80

Thr Glu Glu Gln Lys Ser Thr Leu Pro Leu Pro Gly Gln Val Asp Phe
85 90 95

Ile Asn Gly Gly Pro Pro Cys Gln Gly Phe Ser Gly Met Asn Arg Phe
100 105 110

Asn Cys Gln Ser Ser Trp Ser Lys Val Gln Cys Glu Met Ile Leu Ala
115 120 125

Phe Leu Ser Phe Ala Asp Tyr Phe Arg Pro Arg Tyr Phe Leu Leu Glu
130 135 140

Asn Val Arg Thr Phe Val Ser Phe Asn Lys Gly Gln Thr Phe Gln Leu
145 150 155 160

Thr Leu Ala Ser Leu Leu Glu Met Gly Tyr Gln Val Arg Phe Gly Ile
165 170 175

Leu Glu Ala Gly Ala Tyr Gly Val Ser Gln Ser Arg Lys Arg Ala Phe
180 185 190

Ile Trp Ala Ala Ala Pro Glu Glu Val Leu Pro Glu Trp Pro Glu Pro
195 200 205

Met His Val Phe Gly Val Pro Lys Leu Lys Ile Ser Leu Ser Gln Gly
210 215 220

Leu His Tyr Ala Ala Val Arg Ser Thr Ala Leu Gly Ala Pro Phe Arg
225 230 235 240

Pro Ile Thr Val Arg Asp Thr Ile Gly Asp Leu Pro Ser Val Glu Asn
245 250 255

Gly Asp Ser Arg Thr Asn Lys Glu Tyr Lys Glu Val Ala Val Ser Trp
260 265 270

Phe Gln Lys Glu Ile Arg Gly Asn Thr Ile Ala Leu Thr Asp His Ile
275 280 285

Cys Lys Ala Met Asn Glu Leu Asn Leu Ile Arg Cys Lys Leu Ile Pro
290 295 300

Thr Arg Pro Gly Ala Asp Trp His Asp Leu Pro Lys Arg Lys Val Thr
305 310 315 320

Leu Ser Asp Gly Arg Val Glu Glu Met Ile Pro Phe Cys Leu Pro Asn
325 330 335

Thr Ala Glu Arg His Asn Gly Trp Lys Gly Leu Tyr Gly Arg Leu Asp
340 345 350

Trp Gln Gly Asn Phe Pro Thr Ser Val Thr Asp Pro Gln Pro Met Gly
355 360 365

Lys Val Gly Met Cys Phe His Pro Glu Gln His Arg Ile Leu Thr Val
370 375 380

Arg Glu Cys Ala Arg Ser Gln Gly Phe Pro Asp Ser Tyr Glu Phe Ala
385 390 395 400

Gly Asn Ile Asn His Lys His Arg Gln Ile Gly Asn Ala Val Pro Pro
405 410 415

Pro Leu Ala Phe Ala Leu Gly Arg Lys Leu Lys Glu Ala Leu His Leu
420 425 430

Lys Lys Ser Pro Gln His Gln Pro
435 440

<210> 47
<211> 130
<212> DNA
<213> Zea mays

<400> 47
catgctgttg ggccatgtgt ctagtgttgg cccattaacg tgtacacata tactagaagt 60
gtgtgtggtg tagagagagt gctgtatgtt ttccacattc cagaaaaatc cacatggtat 120
cagagccagg 130

<210> 48
<211> 123
<212> DNA
<213> Zea mays

<400> 48
gaaggggagt gttgggccat gtgtctagtg ttggcccatt aacgtgtaca catatactag 60
aagtgtgtgt ggtgtagaga gagtgctgta tgttttccac attccagaaa aatccacaca 120
tgc 123

<210> 49
<211> 14
<212> PRT
<213> Zea mays

<400> 49
Cys Tyr Asn Cys Gly Asn Val Gly His Ile Ala Arg Asn Cys
1 5 10

<210> 50
<211> 17
<212> PRT
<213> Zea mays

<400> 50
Thr Gln Val Thr Gln Leu Lys Trp Ile Leu Asp Ser Gly Ala Ser Lys
1 5 10 15

His

<210> 51
<211> 14
<212> PRT
<213> Zea mays

<400> 51
Cys Gln Val Cys Ser Arg Val Gly His Thr Ala Leu Asn Cys
1 5 10

<210> 52
<211> 17
<212> PRT
<213> Zea mays

<400> 52
Gln Asn Gly Ser Asn Val Pro Trp Tyr Thr Asp Thr Gly Ala Thr Asp
1 5 10 15

His

<210> 53
<211> 14
<212> PRT
<213> Oryza sativa

<400> 53
Cys Gln Val Cys Phe Lys Arg Gly His Thr Ala Ala Asp Cys
1 5 10

<210> 54
<211> 17
<212> PRT
<213> Oryza sativa

<400> 54
Ser Tyr Gly Ile Asp Thr Asn Trp Tyr Ile Asp Thr Gly Ala Thr Asp
1 5 10 15

His

<210> 55
<211> 14
<212> PRT
<213> Arabidopsis thaliana

<400> 55
Cys Ser Asn Cys Gly Arg Thr Gly His Glu Lys Lys Glu Cys
1 5 10

<210> 56
<211> 17
<212> PRT
<213> Arabidopsis thaliana

<400> 56
Gly Lys Thr Lys Leu Gly Asp Ile Ile Leu Asp Ser Gly Ala Ser His
1 5 10 15

His

<210> 57
<211> 14
<212> PRT
<213> Zea mays

<400> 57
Cys His His Cys Gly Arg Glu Gly His Ile Lys Lys Asp Cys
1 5 10

<210> 58
<211> 17
<212> PRT
<213> Drosophila melanogaster

<400> 58
Ser Val Met Asp Asn Cys Gly Phe Val Leu Asp Ser Gly Ala Ser Asp
1 5 10 15

His

<210> 59
<211> 52

<212> PRT
<213> Zea mays

<400> 59
Gln Val Lys Ile Leu Arg Pro Asp Asn Gly Thr Glu Tyr Val Asn Lys
1 5 10 15

Gly Phe Asn Ala Phe Leu Ser Arg Asn Gly Ile Leu His Gln Thr Ser
20 25 30

Cys Pro Asp Thr Pro Pro Gln Asn Gly Val Ala Glu Arg Lys Asn Arg
35 40 45

His Ile Leu Glu
50

<210> 60
<211> 50
<212> PRT
<213> Zea mays

<400> 60
Lys Ile Ile Ala Phe Gln Ser Asp Trp Gly Gly Glu Tyr Glu Lys Leu
1 5 10 15

Asn Ala His Phe Lys Thr Ile Gly Ile His His Gln Val Ser Cys Pro
20 25 30

His Thr His Gln Gln Asn Gly Ala Ala Glu Arg Lys His Arg His Ile
35 40 45

Val Glu
50

<210> 61
<211> 51
<212> PRT
<213> Oryza sativa

<400> 61
Lys Ile Ile Ala Met Gln Thr Asp Trp Arg Gly Gly Arg Tyr Gln Lys
1 5 10 15

Leu Asn Ser Phe Phe Ala Gln Ile Gly Leu Ile Ile Met Cys His Val
20 25 30

Leu Thr Leu Ile Arg Gln Asn Gly Ser Ala Glu Arg Lys His Arg His
35 40 45

Ile Val Glu
50

<210> 62
<211> 50
<212> PRT
<213> Arabidopsis thaliana

<400> 62
Thr Val Lys Met Val Arg Ser Asp Asn Gly Thr Glu Phe Met Cys Leu
1 5 10 15

Ser Ser Tyr Phe Arg Glu Asn Gly Ile Ile His Gln Thr Ser Cys Val
20 25 30

Gly Thr Pro Gln Gln Asn Gly Arg Val Glu Arg Lys His Arg His Ile
35 40 45

Leu Asn
50

<210> 63
<211> 52
<212> PRT
<213> Drosophila melanogaster

<400> 63
Lys Val Val Tyr Leu Tyr Ile Asp Asn Gly Arg Glu Tyr Leu Ser Asn
1 5 10 15

Glu Met Arg Gln Phe Cys Val Lys Lys Gly Ile Ser Tyr His Leu Thr
20 25 30

Val Pro His Thr Pro Gln Leu Asn Gly Val Ser Glu Arg Met Ile Arg
35 40 45

Thr Ile Thr Glu
50

<210> 64
<211> 71
<212> PRT

<213> Zea mays

<400> 64
Arg Tyr Lys Ala Arg Leu Val Ala Arg Gly Tyr Ser Gln Thr Tyr Gly
1 5 10 15

Ile Asp Tyr Asp Glu Thr Phe Ala Pro Val Ala Lys Met Ser Thr Val
20 25 30

Arg Thr Leu Ile Ser Cys Ala Ala Asn Phe Gly Trp Pro Leu Tyr Gln
35 40 45

Leu Asp Val Lys Asn Ala Phe Leu His Gly Asp Leu Gln Glu Glu Val
50 55 60

Tyr Met Glu Ile Pro Pro Gly
65 70

<210> 65
<211> 12
<212> PRT
<213> Zea mays

<400> 65
Ala Ile Leu Ala Val Tyr Val Asp Asp Ile Ile Ile
1 5 10

<210> 66
<211> 71
<212> PRT
<213> Zea mays

<400> 66
Arg Leu Lys Ala Arg Leu Val Ala Lys Gly Phe Lys Gln Gln Tyr Gly
1 5 10 15

Ile Asp Tyr Asp Asp Thr Phe Ser Pro Val Val Lys His Ser Thr Ile
20 25 30

Arg Leu Val Leu Ser Leu Ala Val Ser Gln Lys Trp Ser Leu Arg Gln
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<213> Zea mays

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<213> Drosophila melanogaster

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Tyr Arg Leu Phe Gly Pro Ile Lys Glu Lys Tyr Ile Gln Val Gly Asn
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35 40 45

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Gln Gln Ile Pro Val Lys Lys Gly Ala Asn Phe Arg Asp Leu Lys Gly
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Leu Arg Leu Asn Asn Asp Asp Tyr Glu Arg Val Gln Ile Pro Val Lys
50 55 60

Lys Gly Ala Asn Phe Arg Asp Leu Lys Gly Val Val Gly Ala Asn Asn
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Val Glu Trp Asp Pro Glu Glu Arg Val Leu Ser Ser Gly Lys Pro Leu
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Val Pro Asp Tyr Ala Met Ser Phe Ile Lys Gly Lys Ser Leu Lys Pro
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Val Pro Val Ala Arg Ala Leu Gly Tyr Cys Leu Gly Gln Ala Tyr Leu
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Asp Gln Thr Val Pro Thr Val Val Thr Arg Ala Glu Pro His Asn Gln
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Val Ile Leu His Pro Thr Gln Ala Arg Val Leu Thr Ile Arg Glu Asn
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Lys Glu Lys Tyr Ile Gln Val Gly Asn Ala Val Ala Val Pro Val Ala
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Arg Ala Leu Gly Tyr Cys Leu Gly Gln Ala Tyr Leu Gly Glu Ser Asp
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Gly Ser Gln Pro Leu Tyr Gln Leu Pro Ala Ser Phe Thr Ser Val Gly
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